

**What is claimed is:**

- 1        1.    A process of dual damascene or damascene, comprising  
2 the steps of:  
3        providing an etching apparatus, a DCM(dry cleaning module)  
4                machine and a wafer, the wafer having a metal line,  
5                a stop layer, a dielectric layer, and a photoresist;  
6        etching the dielectric layer in the etching apparatus to  
7                form a via hole in the dielectric layer;  
8        ashing the photoresist in the DCM machine with an  
9                inductively coupled plasma; and  
10        wet cleaning the wafer.
- 1        2.    The process of claim 1, wherein the metal line  
2 comprises copper.
- 1        3.    The process of claim 1, wherein the dielectric layer  
2 comprises low k material or fluorine-contained oxide.
- 1        4.    The process of claim 1, wherein the ashing step uses  
2 a reaction gas comprising O2, H2O, H2, NH3, N2, He, or Ar.
- 1        5.    The process of claim 1, wherein the inductively coupled  
2 plasma is generated by a dual-power tool which is disposed in  
3 the DCM machine.
- 1        6.    The process of claim 1, wherein the wet cleaning step  
2 uses DHF or DI water as a cleaning solvent.
- 1        7.    The process of claim 1, further comprising a step of  
2 repairing the dielectric layer in the DCM machine.

1        8.    The process of claim 1, further comprising a step of  
2 removing the stop layer in the DCM machine.

1        9.    The process of claim 1, further comprising a step of  
2 cleaning the metal line in the DCM machine.

1        10.   A process of dual damascene or damascene, comprising  
2 the steps of:  
3        providing an etching apparatus, a DCM machine and a wafer,  
4            the wafer having a metal line, a stop layer, a  
5            dielectric layer, a contact, and a photoresist layer;  
6        etching the dielectric layer and the contact in the etching  
7            apparatus to form a trench;  
8        ashing the photoresist and the contact with an inductively  
9            coupled plasma in the DCM machine; and  
10       wet cleaning the wafer.

1        11.   The process of claim 10, further comprising a step  
2 of removing the stop layer in the DCM machine.

1        12.   The process of claim 11, wherein the removing step  
2 uses a reaction gas comprising  $C_xF_y$ ,  $C_xF_yH_z$ ,  $SF_6$ , or  $NF_3$ .

1        13.   The process of claim 10, further comprising a step  
2 of cleaning the metal line in the DCM machine.

1        14.   The process of claim 13, wherein the cleaning step  
2 uses a cleaning chemistry comprising  $O_2$  or  $H_2$ .

1        15.   The process of claim 13, wherein the cleaning step  
2 is performed at  $-10^\circ C$  to  $300^\circ C$ .

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1        16. The process of claim 10, further comprising a step  
2 of repairing the dielectric layer in the DCM machine.

1        17. The process of claim 16, wherein the repair step uses  
2 H<sub>2</sub> as a repair chemistry.

1        18. The process of claim 16, wherein the repair step uses  
2 halogen-silane as a repair chemistry.

1        19. The process of claim 10, wherein the metal line  
2 comprises copper.

1        20. The process of claim 10, wherein the dielectric layer  
2 comprises low k material or fluorine-contained oxide.

1        21. The process of claim 10, wherein the ashing step uses  
2 a reaction gas comprising O<sub>2</sub>, H<sub>2</sub>O, H<sub>2</sub>, NH<sub>3</sub>, N<sub>2</sub>, He, or Ar.

1        22. The process of claim 10, wherein the inductively  
2 coupled plasma is generated by a dual-power tool which is disposed  
3 in the DCM machine.

1        23. The process of claim 10, wherein the wet cleaning step  
2 uses DHF or DI water as a cleaning solvent.